

CLAIMS

1. Device for coiling a windable long, metal product (10), comprising a mandrel (12) having a substantially circular transverse section and rotating around a horizontal, vertical or inclined axis, at least a guide and containing device (15, 16) able to be driven between a first working position wherein it cooperates with said mandrel (12), and a second inactive position wherein it is arranged distant from said mandrel (12), and at least a clamping device (21) associated with said mandrel (12), and able to clamp at least temporarily an initial segment of said metal product (10), characterized in that said clamping device comprises pincer means (21) able to be selectively activated, which are arranged in correspondence with the outer surface of said mandrel (12).
2. Device as in claim 1, characterized in that said guide and containing device (15, 16) comprises means (28) able to displace said metal product (10) towards said clamping device (21).
3. Device as in claim 1 or 2, characterized in that said pincer means (21) are arranged in an inner position with respect to said outer surface of said mandrel (12).
4. Device as in claim 1 or 2, characterized in that said pincer means (21) are arranged in an outer position with respect to said outer surface of said mandrel (12).
5. Device as in any claim hereinbefore, characterized in that said pincer means comprise four pincers (21).
6. Device as in any claim hereinbefore, characterized in that an actuator device (22, 26) is able to act on respective arms (23, 27) of said pincer means (21), in order to perform the selective activation of the said pincer means (21).
7. Device as in any claim hereinbefore, characterized in

that it also comprises an inner plate (13) able to define one of the lateral walls (13a) between which said metal product (10) is wound.

8. Device as in claim 7, characterized in that said inner
5 plate (13) defines an annular channel (14) in proximity with the outer surface of said mandrel (12).

9. Device as in claim 2, characterized in that said guide and containing device comprises at least one flap (15).

10. Device as in claim 9, characterized in that said guide
10 and containing device comprises another flap (16) arranged diametrically opposite said at least one flap (15).

11. Device as in claims 8 and 10, characterized in that
15 said at least one flap (15) and said other flap (16) constitute, in said first working position, a lateral cover to said annular channel (14).

12. Device as in claim 7, characterized in that a flange
(30) is applied on said inner plate (13) substantially perpendicular to said mandrel (12) and shaped so as to have
20 an annular tooth (31) substantially coaxial with said mandrel (12), said annular tooth (31) defining an annular channel (14).

13. Device as in claim 12, characterized in that said
25 annular tooth (31) has a thickness (H) substantially equal to the diameter of said metal product (10), or to a multiple thereof.

14. Device as in claim 12 or 13, characterized in that the
protrusion (L) of said annular tooth (31) is substantially equal to a value of between 1.5 and 2 times the diameter of
said rolled product (10).

30 15. Device as in any claim from 12 to 14 inclusive, characterized in that said flange (30) is interchangeable according to the size of said metal product (10).

16. Device as in any claim from 12 to 15 inclusive,

characterized in that said flange (30) is made of material of great hardness.

17. Method for coiling a long metal product (10), performed by means of a coiling device which comprises a mandrel (12) having a substantially circular transverse section and rotating around a horizontal, vertical or inclined axis, and at least a guide and containing device (15, 16), able to be driven between a first working position wherein it cooperates with said mandrel (12), and a second inactive position wherein it is arranged distant from said mandrel (12), characterized in that it comprises the following steps:

- a first step wherein a leading end of said metal product (10) is inserted into a groove (20) of said guide and containing element (15) arranged in said first working position, so as to guide said metal product (10) along an outer circumference of said mandrel (12),
- a second step wherein said metal product (10) is gripped and clamped at least temporarily on said mandrel (12) by means of one or more pincers (21) arranged in correspondence with the outer surface of said mandrel (12);
- a third step wherein said guide and containing element (15) is taken from said first working position to said second inactive position; and
- a fourth step wherein said metal product (10) is wound for the remainder of its length.

18. Method as in claim 17, characterized in that before said first step, it is provided to insert said metal product (10) into said groove (20) by means of a distributor of said metal product (10).

19. Method according to claim 18, characterized in that during said first step, said mandrel (12) is in rotation around its own axis.

20. Method as in claim 19, characterized in that during said first step said metal product (10) is guided from said groove (20) inside an annular channel (14) arranged on an inner plate (13) of said mandrel (12).